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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/776,216	KANG, HYUNG-JONG	
	Examiner	Art Unit	
	JACKY X. ZHENG	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 June 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *February 12, 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to applicant's amendments and remarks filed on June 13, 2008.

2. **Claims 1, 7 and 11** have been amended.

3. **Claims 1-12** are currently pending.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 1-12** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 1 recites the limitation of *"... to determine and solve a cause of the error by simulating the error using the received information";* claim **7** recites the limitation of *"... determining a cause of the error and solving the error by simulating the error";* and claim 11 recites the limitation of *"... to determine a cause of the error by simulating the error based on the received information".* Such limitations as discussed in the claims indicated above have not been *explicitly* characterized by any further descriptions pertaining to *how* the error simulation (or the method of "simulating the error") is being performed, in order to clearly define the scope of *"simulating the error".* Therefore, the scope of such a limitation is unable to be clearly determined, which further renders the claim scope indefinite. Further clarification is respectfully

requested. In addition, the issue also affects the corresponding dependent claims 2-6, 8-10 and 12.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. **Claims 1-4, 7-9 and 11-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Choi** (US Pub. No. 2002/0059310 A1) and further in view of **Hitchcock et al.** (U.S. Patent No. 6,243,833).

With regard to claim 1, the claim is drawn to an error-processing system for printers *(see Choi, i.e. Paragraph [0011], discloses a system for real-time device driver error handling that can correct device driver errors automatically)*, comprising: a user terminal installed with a print driver *for* controlling drives of a printer, and adapted to send an error recovery request signal to an external server providing information on the printer when an error occurs during a print job *(see Choi, i.e. Figure 2, block 10 and Paragraph [0015], discloses a system for real-time device driver error handing, and further discloses the system includes a user computer having a device driver)*; and a printer server *adapted to* receive the error recovery request signal and provide the user terminal with a debug utility program capable of capturing information related to the error, and, if the information captured by the debug utility is received from the user terminal, to determine and solve a cause of the error by simulating the error using the received information, and to provide the result to the user terminal, wherein the user terminal is adapted to

install the debug utility into the printer driver and to send to the printer server the information captured by the installed debug utility *(see Choi, i.e. Paragraph [0027] and Figure 2, block 20, disclose a "web server", having "a driver error handing program"; The driver error handling program includes a standard driver information storing portion 21, a diagnosis driver information interpreting portion 22, a diagnosing portion 23, and a diagnosing result handling portion 24)* (Also see the further details in Paragraph 10 of "Response to Argument" below, also incorporated by reference herein).

Choi does not *explicitly* disclose the limitation relating to simulating or simulation of errors.

However, Hitchcock et al. disclose an a method and apparatus for automatically testing device driver, applicable to any system wherein software or a device driver receives primitive errors from a device and reports high level errors to a client *(see i.e. Abstract)*. More specifically, Hitchcock et al., disclose the method and apparatus automatically generating error and diagnostic testing data from a device driver to be used in the error testing process, and these test data are then used use as input to a single generic test case that simulate the primitive errors for a given device driver and compares the expected result with the actual results *(see Hitchcock et al., col. 3, ll 9-30)*. In addition, the prior art further disclose the errors could possibly consist of "Out of Paper" for a printer, "Error Reading from a platter in the hard disk" for a hard drive, and etc.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have modified Choi to include the limitation relating to simulating or simulation of errors taught by Hitchcock et al. Also, it would have been obvious to one of ordinary skill in the

art at the time of invention to have modified Choi by the teachings of Hitchcock et al. to include the limitation relating to simulating or simulation of errors taught by Hitchcock et al., thereby *"ensure that the client has received the correct error messages from the software or device drive" (see Hitchcock et al., i.e. "Abstract").*

With regard to claim 2, the claim is drawn to the error-processing system as claimed in claim 1, wherein the user terminal includes: a communication unit adapted to communicate with the printer server *(see Choi, i.e. Paragraph [0026], disclose the user computer 10 contacts the web server through a network)*; a storage unit for storing the information captured by the debug utility *(see Choi, i.e. Paragraph [0026], disclose "The user computer 10 has a device driver (not shown) and a monitoring unit 11. The monitoring unit 11 serves to monitor a state of the device driver. For example, a driver file state, registry information, a profile information, a port state, a driver installation, and the like are monitored by the monitoring unit 11 to output an error message. The monitoring unit 11 is constructed in the form of a monitoring file such as "monitoring.dll", so that the user does not manipulate nor change it as he or she pleases. "Monitoring.dll" is a file used in an example operating system of "WINDOWS" of the MICROSOFT Corporation. The monitoring file "monitoring.dll" is stored in a directory "WINDOWS" or a directory in which the device drivers are installed...")* and a terminal control unit for sending the error recovery request signal and the information captured by the debug utility to the printer server through the communication unit *(see Choi, i.e. Paragraph [0026], disclose the user computer has "a monitor unit 11" to "output an error message").*

With regard to claim 3, the claim is drawn to the error-processing system as claimed in claim 1, wherein the printer server includes: a communication unit adapted to communicate with

the user terminal *(see Choi, i.e. Paragraph [0027], discloses "a web server" contacts the user through a network)*; a database adapted to store the debug utility *(see Choi, i.e. Paragraph [0027] discloses "the standard driver information storing portion 21")*; and a server control unit *adapted to*, if the error recovery request signal is received from the user terminal through the communication unit, send the debug utility stored in the database to the user terminal *(see Choi, i.e. Paragraph [0027], discloses "the diagnosis driver information interpreting portion 22, a diagnosis portion 23, a diagnosing result handling portion 24" realize th function of receiving error information and transmitting the debug together)*.

With regard to claim 4, the claim is drawn to the error-processing system as claimed in claim 1, wherein the debug utility is adapted to automatically set parameter values of printer driver registration information to predetermined values to capture information related to the error *(see Choi, i.e. Paragraph [0011], discloses that the system for real-time device driver error handling can correct device errors automatically; also Paragraph [0027] discloses "a diagnosing portion 23")*.

With regard to claim 5, the claim is drawn to the error-processing system as claimed in claim 1, wherein the debug utility sets a spool data format of the printer driver in an Enhanced Meta File format.

The teachings of Choi and Hitchcock et al. do not *explicitly* disclose the limitation of setting a spool data format of a printer driver in an Enhanced Meta File format.

However, Examiner is herein taking official notice that it would be obvious for one of ordinary skill in the art at the time of invention to utilize such a file format as it is well-known in the art. In addition, for purpose of advancing the prosecution and purpose of illustrating such

limitation being well-known, Applicant is direct to see Mori et al., U.S. Patent No. 6,433,882 B1, i.e. in "Abstract", Figures 3 and 7 (*Note: Mori et al. is merely for showing the file format being well-known, and not relied on for the ground of rejection under 35 USC 103*).

Further, it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Choi and Hitchcock et al. to include the limitation of spool data format of the printer driver in an Enhanced Meta File (or EMF). It would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Choi and Hitchcock et al. to have the spool data format of the printer driver in an Enhanced Meta File, as being commonly known in the art that EMFs print *faster* than other formats (such as raw files) and return control of the application back to the user *more quickly*, and also commonly used by the Windows operating system.

With regard to claim 6, the claim is drawn to the error-processing system as claimed in claim 2, wherein the information captured by the debug utility includes information on an operating system of the user terminal, information on the printer driver, and information on print data, and wherein the terminal control unit is adapted to generate a certain file for the information captured by the debug utility and to send the file to the printer server

In Choi, i.e. Paragraph [00026], discloses to monitor "state of the device driver", a driver file state, registry information, profile information, a port state, etc.

Choi does not *explicitly* disclose the limitation of "information on an operation system", however, Paragraphs [0032]-[0033] discloses different directory for printer driver with respect to different operating systems, and it would be obvious for one of ordinary skill in the art, in the field of printer error management to detect or monitor information on operating system and print

data to *ensure the providing of proper settings and management required by different operating system as one may differ from another.*

With regard to claim 7, the claim is drawn to an error-processing method for an error-processing system for printers wherein the system has a user terminal installed with a printer driver to control drives of a printer and a printer server connected through the internet, comprising steps of: sending an error recovery request signal to the printer server if an error occurs during print jobs for print data using the printer *(see Choi, i.e. Paragraph [0026], discloses "monitoring unit" for outputting the error message)*; providing the user terminal with a debug utility capable of capturing information related to the error if the error recovery request signal is received *(see Choi, i.e. Paragraph [0015], "a driver error handling program")*; installing the debug utility transferred from the printer server into the printer driver and sending the information captured by the installed debug utility to the printer server *(see Choi, i.e. Paragraph [0028], "monitor file is installed in the user computer")*; and receiving the information captured by the debug utility from the user terminal, determining a cause of the error and solving the error by simulating the error, and sending the result to the user terminal *(see Choi, i.e. Paragraph [0028], S304, discloses the following technical features: when device driver errors occur, the user selects a web page having the driver error handling program. The driver error handling program executes the monitoring file, so that the monitoring file searches the device driver information. The diagnosis driver information interpreting portion 22 is used for analyzing the information of the device driver when it receives a request for the device driver diagnosis from the monitoring unit 1. The diagnosing portion 23 compares the standard driver information with the device driver information to diagnose an operation state of the device*

driver. The diagnosing result handling portion 24 displays the diagnosing result on the user computer 10. If the user selects the error correction, then the diagnosing result handling portion 24 corrects the device driver error) (Also see the further details in Paragraph 10 of "Response to Argument", also incorporated herein).

With regard to claim 8, the claim is drawn to the error-processing method as claimed in claim 7, wherein the information captured by the debug utility includes information on an operating system of the user terminal, information on the printer driver, and information on the print data, and further comprising the steps of generating a certain file for the information captured by the debug utility and sending the file to the printer server *(The claim is rejected under the same ground for at least the reasons set forth above in claim 6. See the detailed discussion of the claim 6 above).*

With regard to claim 9, the claim is drawn to the error-processing method as claimed in claim 7, wherein the debug utility automatically sets parameter values of printer driver registration information to certain values to capture information related to the error *(The claim is rejected under the same ground for at least the reasons set forth above in claim 4. See the detailed discussion of the claim 4 above).*

With regard to claim 10, the claim is drawn to the error-processing method as claimed in claim 7, wherein the debug utility automatically sets a spool data format of the printer driver to an Enhanced Meta File format *(The claim is rejected under the same ground for at least the reasons set forth above in claim 5. See the detailed discussion of the claim 5 above).*

With regard to claim 11, the claim is drawn to an error-processing system comprising: a printer server adapted to receive an error recovery request signal from a user terminal, to provide

the user terminal with a debug utility program capable of capturing information related to the error, to receive information captured by the debug utility, and to determine a cause of the error by simulating the error based on the received information *(see Choi, i.e. Paragraph [0027], disclose "a web server")* (Also see the further details in Paragraph 10 of "Response to Argument", also incorporated herein).

With regard to claim 12, the claim is drawn to the error-processing system of claim 11, wherein the printer server further comprises: a communication unit adapted to communicate with the user terminal; a database adapted to store the debug utility; and a server control unit adapted to send the debug utility stored in the database to the user terminal in response to the error recovery request signal *(The claim is rejected under the same ground for at least the reasons set forth above in claim 3. See the detailed discussion of the claim 3 above).*

Response to Arguments

9. Applicant's arguments filed on June 13, 2008 have been fully considered but they are not persuasive for at least the following reasons, and also moot in views of new grounds of rejections.

10. In re Applicant's remarks from pg. 6-7, regarding the rejection made under 35 U.S.C. §102(b) with regard to Claims 1, 7 and 11, Applicant asserts that: a) *"Choi, by contrast, provides a program to the user terminal which attempts to diagnose and fix the error without capturing information about the error and transmitting the information to the external printer server";* b) *".. the present invention simulate errors caused in the printer to determine the cause of the errors, ... independent claims 1, 7 and 11 each (now) recite that a cause of error is determined*

'by simulating the error'". Applicant's argument(s) are fully considered, however found to be not persuasive for at least the following reasons.

a. With regard to argument a), Examiner respectfully submits, Choi, in addition to the disclosure set forth previously in Office Action mailed on March 13, 2008, further discloses, i.e. in Paragraph [0025], *"... when a device driver error occurs, the user contacts the web server having a checking program in order to correct the error. The user downloads the checking program (or driver error handling program) from the web server ("printer server") to his computer ("user terminal");* further in details, in Paragraph [0027], discloses *"The diagnosis driver information interpreting portion 22 (which is part of "web server", see Fig. 2) interprets the information of the device driver when it receives a request for the device driver diagnosis from the monitoring unit 1 (which is part of "user computer 10" or "user terminal", see Fig. 2) The diagnosis portion 23 (belongs to "webs server") compares the standard driver information stored in the standard driver information storing portion 21 with the diagnosis driver information interpreted to diagnose an operating state of the device driver... when an error occurs in the device driver, diagnosis result handing portion 24 (also part of "web server") discriminates whether the error can be correctable or not in order to perform follow-up measures...."*. In other words, at least the *information associating to a request* for diagnosis, and the *information relating to the device driver* (which can be reasonably read on the claimed limitation of "information related to error" as currently there is no further description of types of error in instant claim language) are disclosed as and must required to be transmitted from the user terminal to the web server in order to perform the

comparison and discriminating procedures of the diagnostic process disclosed in Choi. Examiner respectfully submits, for at least the reasons stated above, the limitation in argument, *"provides a program to the user terminal which attempts to diagnose and fix the error without capturing information about the error and transmitting the information to the external printer server"* is met over the details discussed and ones set forth previously, thus finding such limitations to be disclosed and taught by the disclosure of Choi.

b. With regard to argument b), Examiner respectfully submits, with respect to the *newly added* limitation of *"simulating the error"* in the independent claims 1, 7 and 11, the arguments relating to such are respectfully found to be moot in view of new ground of rejection(s) set forth above.

c. In addition, Applicant is respectfully suggested for amendments of the claims in future with regard to issues relating to the usages of "statement of intended use or field of use" by reciting and using the claim languages, such as *"adapted to"* and *"capable of"* in at least the independent claims 1, 7 and 11. In accordance with MPEP §2106 C., which provides *"Language that suggest or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation"*. Also MPEP §2111.04.

> MPEP §2106 C. Review the Claim
> "…
> The subject matter of a properly construed claim is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claim will dictate whether the language limits the claim scope. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. The following are examples of language

> that may raise a question as to the limiting effect of the language in a claim:
>
> (A) statements of intended use or field of use,
> (B) "adapted to" or "adapted for" clauses,
> (C) "wherein" clauses, or
> (D) "whereby" clauses.
>
> This list of examples is not intended to be exhaustive. See also MPEP § 2111.04.
> ..."

Examiner submits for at least the reasons set forth above, Applicant's arguments are respectfully found to be not persuasive; therefore the rejection is also made final.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A. Lee et al. (U.S. Pub. No. 2006/0268307, SAMSUNG) disclose a method of evading printing errors and printing system having a language monitor receiving command generated by a driver.

B. Mori et al. (U.S. Patent No. 6,433,882) disclose a device for processing intermediate files in printer control system; particularly disclose the limitation of using Enhanced Meta File (EMF) format.

C. Kim (U.S. Pub. No. 2004/0105116, SAMSUNG) discloses a method and apparatus for informing print error of a wireless printer.

D. Kim (U.S. Pub. No. 2005/0168773, SAMSUNG) discloses a printing system for predicting printing error through preliminary inspection of printer driver.

E. Payne et al. (U.S. Pub. No. 2004/0012808) disclose a network-based technical support and diagnostics.

F. Dister et al. (U.S. Patent No. 6,041,287) disclose system architecture for on-line machine diagnostics.

G. Bishop et al. (U.S. Patent No. 6,049,798) disclose a real time internal resource monitor for data processing system.

H. Hofrichter et al. (U.S. Patent No. 7,260,597) disclose a remote manual, maintenance and diagnostic service for networked electronic devices.

I. Kim et al. (U.S. Patent No. 6,473,788) disclose a remote maintenance and servicing of a network peripheral device over the World Wide Web.

J. Lozano et al. (U.S. Pub. No. 2004/0030809) discloses a method and apparatus for automatic printer and printer driver diagnostic and repair.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

13. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacky X. Zheng whose telephone number is (571) 270-1122. The examiner can *normally* be reached on Monday-Friday, 7:30 a.m.-5p.m., Alt. Friday Off.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler M. Lamb can be reached on (571) 272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jacky X. Zheng/
Examiner, Art Unit: 2625
September 16, 2008

/Twyler L. Haskins/
Supervisory Patent Examiner, Art Unit 2625